RCP employees' innovative idea improves safety

Marilyn Hodgson, FH

Two Fluor Hanford River Corridor Project employees, Dana Mueller and Dean Wilcox, have designed and fabricated a tool for use in the 324 Building. The new tool helps accomplish work more safely and in less time than previous methods.

The tool is used to prepare grout containers for shipment out of the 324 Building in the 300 Area. Before the grout containers can be moved to compliant storage in the 200 Area, a radiological control employee must perform what is known as a "smear" survey on the top of the liner.

In the past, the liners have had dose rates as high as 2,000 rem per hour at 30 centimeters. Because the containers are unloaded in the open environment where contamination might be spread, there are rigid requirements for removable contamination.

"I felt that the organization needed a tool that would be efficient at smearing the top of the cask without the risk of having to climb a ladder," said Mueller, a health physics technician. "A tool that would accomplish the task was not available."

Efforts to procure a suitable tool had been unsuccessful. Dana decided the problem needed to be solved and enlisted the help of millwright, Dean Wilcox. After a short time, a sketch of the tool was developed, and work documentation was written and approved so production could begin. The tool was fabricated in less than three hours using available material, which added a cost avoidance to the innovative idea.

Since becoming available, the tool has been used to successfully reduce dose rates and risk to the workforce in the shipment of 17 grout containers. The dose reduction has been in two forms — a reduced extremity exposure to the radiological control technician, and reduced whole-body exposure to the other 20 workers. This is equivalent to the yearly dose acquired, on average, by two workers in the 324 facility.

Another important reduction in risk was accomplished by making it unnecessary to climb ladders to perform the survey. And an added bonus is the availability of this tool for extensive future use for tasks such as the scheduled shipment of 14 22-ton steel waste disposal containers.

"This is the kind of innovation and employee involvement we need and encourage at RCP," said Norm Boyter, vice president of the River Corridor Project for Fluor Hanford. ✦